WA 6906
10-31-84
Ica

Date: 10-31-84

Subject: WAD009036906 Ridgefield Brick and Tile. Comprehensive Groundwater Monitoring Evaluation and Sampling Inspection.

From: Michael Brown, Env Eng
RCRA CAPS

To: George Hofer, Chief
RCRA CAPS

Attached is Ridgefield Brick and Tile's final report of the Comprehensive Groundwater Monitoring Evaluation and Sampling Inspection of 06-12-84.

Although the facility physically closed last year, the groundwater monitoring system is not adequate to detect immediate groundwater contamination in the uppermost aquifer under the site. The wells in the present monitoring system are active drinking water wells of which not enough information is known about the installation and screening depth. These wells are more importantly too far away from the active unit to immediately detect groundwater contamination. The present chemical parameters being sampled are not the standard RCRA required parameters. WDOE has not moved to stop the discharge of leachate that overflows the toe drain during the winter months.

Compliance action is needed to rectify the situation.

Attachments:
-06-12-84 Comprehensive Groundwater Monitoring Evaluation and Sampling Inspection
-Contractor's Checklists
-Jack Sceva's Comments

ATTACHMENT 3 - BROWN AFFIDAVIT

COMPREHENSIVE GROUNDWATER MONITORING EVALUATION
SAMPLING INSPECTION

06-12-84 Date of Inspection
08-15-84 Draft Report
10-19-84 Lab Data Complete
09-14-84 Date of Report (Final lab data did not affect final report.)

Inspector: Michael Brown
Hydrogeologist: Dave Myers (Battelle-NW)

WAD009036906
Ridgefield Brick and Tile
111 West Division Street
Ridgefield, WA 98642
Contact: Vince McQuiggin (206) 887-3562

ACTION
-Order the facility to install a groundwater monitoring system which is capable of determining GW contamination in the uppermost aquifer which is continuous under the site.
-Request the facility to explain what effect the water softener has had on earlier the sampling data.
-Require the facility incorporate field QA/QC procedures.
-RBT needs to be sampling the RCRA required parameters.
-Sampling replicates need to be done.
-Compliance action needs to be initiated to cease the discharge of the leachate from the toe drain.
-Determine if the landfill is leaking.
-Repeat split sampling since results are inconclusive.

BACKGROUND
Haz Waste Code:
K001-Bottom sediment sludge from the treatment of wastewaters from wood preserving process that use creosote and/or pentachlorophenol.

Process Code:
D80-Landfill

Resource Documents:
1. 04-21-83 Notice of Violation from EPA to PWT and E.Muffet.
2. 06-20-83 Notice of Penalty from WDOE to PWT and E.Muffet.
3. 06-07-83 RBT Preliminary Groundwater Investigation to WDOE from PWT.
4. 07-19-83 Draft Closure Plan from RBT to WDOE
5. 08-04-83 WDOE Comments on Draft C/PC Plan to PWT from WDOE.
6. 08-10-83 EPA comments on Draft C/PC Plan. Transmitted 07-27-83 to WDOE from EPA.
7. 08-25-83 Addendum to Draft C/PC Plan to WDOE from PWT.
8. 06-11-84 Letter from VMcQuiggen to EEgbers on methods of analysis and sampling technique.

9. 06-12-84 GW Inspection. People: Mike Brown (EPA), Art Whitson (EPA), Dave Myers (Battelle-NW), Rick Pierce (WDOE-SW), Vince McQuiggin (PWT), Ed Ryf (PWT) (part of the time), Mark Moothart (PWT) (part of the time).
10. 07-27-84 Copy RBT Certification of Closure to EPA from PWT.
11. 08-14-84 Received copy of RBT's past three quarters of data.
12. Contractors completed RCRA checklist.
13. 09-26-84 Jack Sceva's comments on Draft Report.

I. MONITORING SYSTEM

Comments:

-Monitoring well system is not adequate.

-The downgradient well system is made up of three domestic wells. Water level measurements of these wells have not been made so the downgradient direction can only be judged from the regional groundwater information.

-These downgradient wells are too far from the active unit to immediately detect ground water contamination in the uppermost aquifer. The downgradient wells are greater than 1000 ft from the active unit. EPA has not evaluated any hydrologic conductivity data from this site; but from past experience, these downgradient wells are at least an order of magnitude too far in distance from the active unit. EPA verbally relayed this concern to WDOE before the RBT closure plan was approved and implemented.

-The downgradient wells are screened to enhance domestic water needs and it is not known how this situation affects the collection of GW contamination data.

-Not enough information can be obtained from the well logs to comment on whether the wells are constructed and installed properly for GW sampling.

II. SAMPLING TECHNIQUE

Comments:

-Facility does not have GW monitoring wells which are dedicated to water monitoring but utilizes drinking water wells from the surrounding local residences.

-During this sampling effort, it was discovered that the water being sampled from one of the domestic wells passed through a water softener. This situation was corrected during this inspection trip and water was collected from another point. The effect of the water softener in stripping out indicator parameters is not known.

-In all cases, initial water from the wells was derived from a pressure tank. Documentation of the length of time the pumps actually operate was not obtained or recorded. The use of domestic wells requires additional QA/QC to assure validity of the samples.

-Sweet and Edwards performed the sampling and their technique was acceptable. The sampling apparatus was cleaned between wells to inhibit cross-contamination.

-pH and Specific Conductivity measurements were taken in the field.

-Field QA/QC procedures were lacking. Transfer, transport, and duplicate samples were not taken by the facility. Facility was not aware of what laboratory QA/QC was done by Laucks Labs.

-Neither the facility nor the Sweet and Edwards had a bound field log book.
-Facility combined the saturated and the unsaturated GW monitoring together. Samples from the lysimeters were collected by pressurizing the lysimeter and discharging the available water into a container. The nature of the pressure/vacuum lysimeters makes them unsuitable for analysis for volatile or semivolatile constituents.

III. DATA ANALYSIS

A. DUPLICATE SAMPLES

Comments:
-Agreements between WDOE and RBT limited the chemical parameters that RBT sampled to As, Ba, Cd, Cr, Pb, Hg, Se, Ag, Phenols, Cu, Pentachlorophenol, and Napthalene. RBT did not have to do these in replicate.
-EPA sampled for DW Metals, TOC, and TOX. Some of the labels washed off of the bottles and were subsequently thrown away by the Lab.
-Duplicate data of common chemical parameters of RBT and EPA were both at or near the detection limit.
-TOC and TOX values were not particularly noteworthy. TOC values are low and the up and downgradient wells are similar in value approximately 10 mg/l. The TOX values are below detection limits in both the up and the downgradient wells. Both of these statements are based on one upgradient and one downgradient wells.
-Napthalene values for both the up and downgradient wells are below detection limits for both the up and down gradient wells.
-Pentachlorophenol data is at the detection limit for the up and downgradient wells. This data was not run in replicate and the past data on these wells has not shown any traces of penta.
-No statistical significance can be be made because replicates were not sampled.

B. OTHER DATA

Comments:
-Three quarters of data have been sampled so far:
1. 12-14-83 & 01-11-84.
2. 03-23-84
3. 06-12-84

-It is not clear why the first quarter sampling was split up into two parts 12-14-83 and 01-11-84.
-The metal values for all the quarters were at or near the detection limit for all the quarters.
-The toe drain sump showed positive but low (less than 10 ppb) range for penta and napthalene for all times sampled except one. The values were the highest in the winter months. The toe drain was dry for the 06-12-84 sampling. The toe drain overflowed during the winter months and was discharged to the local drainage system. RBT outlined this practice in a letter to Eric Egbers dated February 8, 1984.
-The lysimeter's showed positive readings (less than 10 ppb) for penta and napthalene for all times that enough sample could be obtained for the analysis.
-The surface impoundment appears to be leaking as evidenced be the positive samples obtained from the toe drain, lysimeters, and some of the wells. The values are near the detection limits but appear to be real.

RBT's Sampling Results 06-15-84

Chemical Parameters/Well # (mg/l)		1	2	3	4
As					
	EPA	0.021	0.016	0.005	0.007
	RBT	L0.005	L0.005	L0.005	ND
Cd					
	EPA	L0.001	L0.001	L0.001	L0.0001
	RBT	L0.002	L0.002	L0.002	ND
Cr					
	EPA	L0.001	L0.001	0.001	L0.001
	RBT	L0.01	L0.01	L0.01	ND
Se					
	EPA	L0.001	L0.001	L0.001	L.001
	RBT	L0.005	L0.005	L0.005	ND
Cu					
	EPA	0.033	0.079	0.030	0.012
	RBT	0.005	L0.005	0.006	ND
TOC					
	EPA	10	ND	7	2
	RBT	ND	ND	ND	ND
TOX (ug/l)					
	EPA	ND	L5	L5	ND
	RBT	ND	ND	ND	ND.
Pentachlorophenol (ug/l)					
	EPA	ND	ND	ND	ND
	RBT	0.86	0.43	1.1	ND
Napthalene (ug/l)					
	EPA	L.1	L.1	L.1	L.1
	RBT	L1	L1	L1	ND

1. Falls Well
2. Muffet Well
3. Ryf Well
4. Transfer Blank

ND=not done
L=less than

HYDROGEOLOGIC ADEQUACY OF INTERIM MONITORING

(B) (13)

I HAVE REVIEWED THE [redacted] COMPREHENSIVE MONITORING REPORT OF 8-M-8 FOR THE RIDGEFIELD BRICK AND TILE HAZARDOUS WASTE SITE. FROM THIS REPORT AND OTHER SUPPORTING DATA, IT IS MY OPINION THAT THE INTERIM MONITORING SYSTEM IS:

☐ ADEQUATE IN THAT IT CONSIST OF _____ DOWN GRADIENT MONITORING WELLS AND ____ UP GRADIENT MONITORING WELL(s) THAT ARE CONSTRUCTED SO AS TO [redacted] MONITOR THE UPPERMOST GROUND WATER AND WITH PROPER SAMPLING AND ANALYSIS WILL DETECT GROUNDWATER CONTAMINATION FROM THE CONTROLLED SITE WITHIN THE WASTE MANAGEMENT AREA

☒ NOT ADEQUATE TO DETECT GROUND-WATER CONTAMINATION FROM THE CONTROLLED SITE FOR THE FOLLOWING REASONS:

1. MONITORING WELLS NOT LOCATED WITHIN OR ON THE BORDER OF THE WASTE MANAGEMENT AREA.

2. WELLS ARE NOT ADEQUATE TO DETERMINE THE GROUND WATER GRADIENT BENEATH THE FACILITY

3 ____ [redacted] DETAILS OF THE WELL CONSTRUCTION THE WELL ARE NOT AVAILABLE TO DETERMINE WHETHER [redacted] WOULD SAMPLE THE UPPERMOST GROUND WATER.

X ____

Jack E. Clow

GEOLOGIST, FOTSB, EPA

DATE 9/21/84